Appendix F

HAZARDOUS MATERIALS BACKGROUND DATA

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Unplottable Sites

Crystal City Site

The database searches uncovered 27 additional sites that are deemed unplottable due to incomplete address information. These sites have similar zip codes to the Crystal City site, but may or may not exist within the database's respective radii for the site. The 27 sites were found in the following databases: one on CERCLIS, one on RCRIS-LG, three on RCRIS-SG, two on the LRST, nineteen on the RST and one on the HWS.

Carlyle Site

The database searches uncovered 15 additional sites that are deemed unplottable due to incomplete address information. These sites may or may not exist within the database's respective target radii from the Carlyle site. These sites were selected during the database search because they have a similar zip code as the Carlyle site. The 15 sites were found under the following databases; one on CERCLIS, one on RCRIS-SG, two on the LRST, eight on the RST, one on the HWS, and two on the NFRAP.

Eisenhower Avenue Site

The database searches uncovered additional sites that are deemed unplottable due to incomplete address information. These sites may or may not exist within the database's respective radii for the Eisenhower Avenue site. These sites were selected during the database search due to their zip codes being similar to that of the subject property. Eight unplottable sites were identified in the database search completed for the 2233, 2213 and 2433 Eisenhower Avenue locations. They were found in the following databases: one on CERCLIS, two on RCRIS-LG, three on RCRIS-SG and two on the LRST. Thirty unplottable sites were identified in the database search completed for the 33 1 and 3 15 Stovall Street and 3 14 Taylor Drive locations. They were found in the following databases: one on CERCLIS, one on RCRIS-LG, one on RCRIS-SG, two on the LRST, eight on the RST, 14 on the SWF, one on the HWS and two on the NFRAP.

Past Contamination and Remediation

Carlyle

Site

Underground/Aboveground ***Storage Tanks.*** A large aboveground storage tank (AST) and underground vault with three 500 gallon and two 2,500 gallon underground storage tanks (RSTs) were located on site in Block K, just south of Block G. The RSTs were removed in July 1991. During removal, all TPH contaminated soil was transported off-site for thermal treatment and approximately 13,800 gallons of oil/sludge/water mixture was transported off-site for disposal.

The concrete vault was cleaned and left in place.

Two RST sites were identified off site as the Norfolk Southern Railroad (NSRC) and a third is identified as Alexandria Scrap Corporation which formerly operated on the property. RSTs were removed from the area of the diesel shop on the eastern portion of Block G and the former scrap yard on Block I to the west of the property (ECS, 1996). Additional RSTs were not identified on the site during remediation activities. The tank on Block I was removed in early 1992 and was found to be leaking. A site characterization for the VADEQ concluded that the tank did not pose a threat to the environment. Weathered petroleum product was discovered in a C&P manhole along Mill Road adjacent to the Alexandria Scrap Yard (ECS, 1996).

Soils. Based on the results of previous site investigations, concentrations of TPH, lead, arsenic and PCBs were present. Remediation for these have been performed in Blocks F, G, J, and M on the site and H and L off the site. Final confirmatory sampling has been completed for Blocks F, G, J, M, and a portion of K. In addition, adjacent Blocks I, A, and H have been remediated to within the originally agreed upon cleanup standards (ECS, 1996).

The majority of the contamination was limited to lead, arsenic, petroleum and limited PCB contamination of the soils and landfill materials. The PCB contaminated materials identified on the property were located in an approximate 2,500 square yard area on the northwestern section of Block M and the contiguous southwestern section of Block J. This material extended to a depth of approximately two feet below the existing surface in that area. The contamination was determined to be a result of previous activities at the site which included rail yard, scrap yard, and landfill operations.

Results from the railyard samples indicated that the lateral extent of the TPH and most priority pollutant total metals (PPTMs) were discontinuous and did not extend over the entire site. TPH was present in surface soils and the vertical extent in some areas was between 7 to 15 feet below ground surface. Arsenic and lead were present only in some surface soils. Of the remaining PPTMs constituents, copper and zinc were slightly elevated at a few locations; all other PPTMs constituents were either not detected or detected at levels below clean-up standards.

Results of sampling in the scrap yard on Blocks J and M indicated TPH, PPTMs, and PCBs were present in surface soils. The vertical extent of TPH varied from 5 to 22.5 feet below ground surface in isolated locations. PPTMs in subsurface soil was significantly lower than in surface soils. PCBs were only detected around scrap processing equipment. Except for one location in the tin press area, PCBs did not appear in subsurface soils. Impacted soils containing PCBs have been removed. The results from the landfill on the southern portions of Blocks M and N indicated that TPH and PPTM were present in landfill materials. PPTM appeared to be related to fly ash that was deposited in the landfill. TPH was present to depths from 17 to 22.5 feet below ground surface.

Sampling efforts conducted in September 1990 revealed surface and subsurface TPH greater than 500 mg/kg in Blocks G around the locomotive diesel shop off site, Block F around the railcar shop and Block K around the fuel storage. Lead and arsenic were also found but only in the top two feet of soil. One area of PCB contamination above 10 mg/kg was found near the

surface in the boundary area between the scrap yard and landfill area in Block M. During the September 1990 study, no groundwater contamination was detected. In November 1992, additional sampling was conducted in Blocks M and N for the same parameters. No areas impacted by lead or arsenic were found.

Contamination in the railyard area both on and off site in Blocks A, F, G, and H was found within the ballast section to average depths of approximately two feet (a clean and relatively impermeable clay layer lies beneath the ballast). Subsequent testing, within the railyard to fill in "data gaps" found additional metal contamination within the ballast section.

Beginning in April 1991, all of Block I and the extreme southern portion of Block A were remediated for construction of the Federal Courthouse. This involved excavation and off-site disposal of metal and TPH soils. The locomotive shop stockpile was eliminated in the latter part of 1992, with contaminated material and debris being disposed of off-site and the soil below cleanup limits was stockpiled on Block N on the site.

Two major remediation efforts were conducted in 1993. The abandoned railyard was remediated. This removal and cleanup occurred in Block F around the railcar shop, in Block G around the locomotive diesel shop adjacent to the site, and in portions of Blocks J and K on site. Approximately 500 tons of contaminated materials (mostly railroad ballast) were excavated to a depth of 2 to 5 feet except along the south portion of Block F, where deeper excavation of 4 to 5 feet was necessary. All contaminated materials were either treated on-site or disposed of off-site.

In June 1993, Block M was remediated per specific site clean-up standards. Approximately 84,000 tons of impacted material was excavated and transported off-site. In addition, approximately 1,500 tons of low-level TPH contaminated material was thermally treated on-site and used as clean backfill material.

During May through August 1993, total lead and arsenic impacted soils were removed from Blocks F and G on site and Blocks A and H off site. Total lead material and a small amount (685 tons) of PCB soil were removed from Blocks J and M. Contamination within Blocks J and M was removed to depths ranging from 2-5 feet including approximately 6,027 tons of excavated soil.

Adjacent Areas

Adjacent properties to the north include Blocks A, B, and C of the Carlyle Development Project. Condominiums have been built on Block A, a multi-storied office building for Time-Life was constructed on Block B, and Block C is currently undeveloped. Approximately 13,000 tons of lead and arsenic contaminated soil was removed from Block A and approximately 5,000 tons of petroleum contaminated soils were thermally treated in place prior to construction. The contamination is likely a result of railyard operations.

Soil was sampled for metals in the northern portion of Time-Life Block B and hydrocarbon soil was removed in April 1995. Carlyle Development Corporation (CDC) contracted with ECS to perform additional sampling to delineate the lead and arsenic on the southern portion of the

Time-Life Lot. The lead and arsenic contaminated soil was excavated and removed from the site in July 1995 and is stockpiled on an adjacent block pending disposal (VADEQ, 1996).

Analysis indicated one sample contained arsenic above the cleanup level goal and one sample contained lead above cleanup goals. This contamination is believed to be associated with ballast material used for railroad beds, and may have since been remediated. In response to PCE/TCE discovery during the initial audit, a site investigation was performed on Block B and was expanded to include Blocks A and C after preliminary investigation indicated contamination beyond Block B. TCE/PCE and traces of other chlorinated hydrocarbons were found in the groundwater on Block C. The results of the investigation (following removal of a small amount of TPH contaminated soil), revealed only traces of chlorinated hydrocarbons (BTEX) in the remaining soils. Levels were well below EPA Region III Risk-based Screening Levels (VADEQ, 1996).